



Plan Section - **Assessment of Current Public Infrastructure & Facilities**

Context

The State of Kansas requires cities and counties to have a comprehensive plan in order to exercise and authorize development approvals. Under state statutes, the comprehensive plan also serves to guide spending decisions on public infrastructure and facilities.

As Wichita and Sedgwick County enter an era of diminishing revenues and rising costs to maintain existing community assets, the following two basic principles (governed by community 'willingness to pay') have emerged that guide the policies of this comprehensive plan.

GUIDING PRINCIPLES

1. We must **maximize the return on every public dollar invested** in public infrastructure and facilities. Which investments will best generate jobs, increase tax revenue or otherwise promote the well-being of our citizens? Which investments best provide for the community's future?
2. We must **minimize the economic, health, safety and environmental risks** to our community when making those investments. Do we jeopardize our economic future if we do not invest in a long-term water supply? Do we risk a bridge failure by not properly maintaining it? Will the new transportation project reduce congestion and improve safety?

It costs a lot to properly maintain and operate \$7 billion in existing city and county community assets. These costs and those for new projects compete for the same revenues and influence how city and county spending priorities are set for the future. Current and future generations of Wichita and Sedgwick County will live with the decisions we make today, just as we live with those of past generations.

Over many decades, public assets have shaped our community's economy and quality of life and driven private investment decisions in Wichita and Sedgwick County. Our future as a community will in part be a reflection of what is needed, wanted, currently spent and will be spent on public infrastructure and facilities in Wichita and Sedgwick County.

Assessment Approach

In 2011-12, Wichita and Sedgwick County with assistance from the Hugo Wall School of Urban and Public Affairs at Wichita State University completed an extensive 'order-of-magnitude' assessment of current city and county infrastructure and facility assets (*City of Wichita and Sedgwick County Community Infrastructure and Facilities Status Report, 2012*). This assessment was not intended to provide a complete inventory of capital assets for operating or budgetary

purposes. It was solely intended to provide a broad overview of public assets controlled by the City of Wichita and Sedgwick County.

Initial data was submitted by operating departments of Wichita and Sedgwick County on forms that requested the following information: an inventory of all infrastructure/facility capital assets including their replacement cost; life expectancy; utilization level (under, appropriate or over utilized); level of usability based on criteria of safety, security and accessibility; and asset condition based on factors of relevancy, functionality, need for repairs, age/life cycle stage, and overall condition; and associated maintenance costs and planned investments. Data was collected separately for building condition. A scale of excellent to unsatisfactory was used to assess usability and asset condition. All dollar figures are stated in constant 2011 dollars. Department data was supplemented with insurance records to determine age and asset replacement cost.

For assessment and evaluation purposes, city and county capital assets were grouped according to the following four principal public infrastructure and facility functional categories:

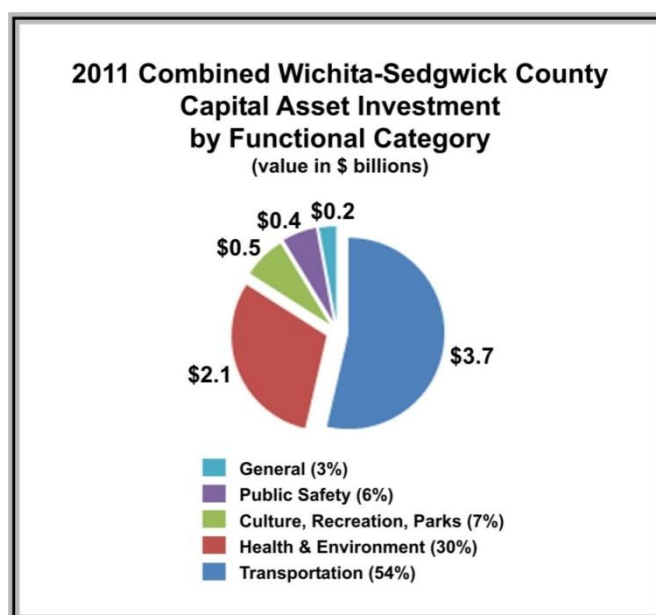
1. **Transportation** (Highways, streets, bridges, sidewalks/paths, parking facilities, transit, airport);
2. **Health & Environment** (Water, sewer, stormwater, public health);
3. **Culture/Recreation & Parks** (Libraries, arts/education facilities, parks, recreation facilities);
4. **Public Safety** (Fire, police, corrections, court facilities).

Capital assets were evaluated in terms of the following criteria to help better understand the financial obligations associated with existing city and county public infrastructure and facility investments:

- ❖ Replacement cost;
- ❖ Life expectancy;
- ❖ Level of usability based upon criteria of safety, security and accessibility;
- ❖ Utilization level;
- ❖ Asset condition based on factors of relevancy, functionality, need for repairs, age/life cycle stage and maintenance costs.

Assessment Overview

The value of combined public infrastructure and facility capital assets for Wichita and Sedgwick County exceeds \$7 billion (2011). Approximate valuation of these assets aggregated according to functional categories is depicted in the graphic on the next page.



Based upon factors of functionality, relevancy, need for repair, age and life cycle stage, almost 38% of Wichita's assets and 11% of the County assets have been rated as being 'fair/deficient' in terms of overall condition (using a five point rating scale of 'unsatisfactory', 'poor', 'fair/deficient', 'good', 'excellent'). Remaining city and county assets were rated as being 'good' or 'excellent'.

Application of straight line depreciation calculations to combined city and county assets based upon age, remaining life expectancy and estimated cost of replacement, produced a depreciation estimate of \$242 million (split approximately one-quarter to Sedgwick County and three-quarters to the City of Wichita). This estimate is an extrapolation and assumes that infrastructure ages linearly over its expected life cycle. This figure is roughly one-quarter the size of the combined annual operating budgets of Wichita and Sedgwick County.

The capital improvement programs (2012) for Wichita and Sedgwick County show expected capital spending to average roughly \$275 million over the next five years. Approximately 70% of those expenditures are for maintenance/repair of existing assets with the remaining 30% for the expansion of assets. Combined annual maintenance expenditures are roughly \$48 million. Based upon these accounting assumptions, Wichita and Sedgwick County are currently spending sufficient funds each year to maintain existing infrastructure assets at or near their current condition. If current asset conditions are below acceptable standards, then additional investment would be necessary.

The following overview and assessment of assets is provided for the four principal public infrastructure and facility functional categories.



1. Transportation Infrastructure (\$3.7 billion) -

(Highways, streets, bridges, sidewalks/paths, parking facilities, transit, airport)

Summary of Major Assets:

- Wichita and Sedgwick County combined transportation assets account for 54% of all city and county infrastructure (52% of total city assets and 57% of total county assets). These assets include a total of 2,500 miles of roads and streets (including over 100 miles of unpaved city streets), over 990 miles of sidewalks, 950 bridges, 54 miles of bike paths, 9 miles of bike lanes, a public transit center and facility, and two public airports.

Condition and Capacity:

- Annual straight-line depreciation of city and county assets in this category is estimated at \$102 million and \$46 million respectively.
- Nearly half (48%) of Wichita's streets fall below the recommended pavement condition index (PCI) developed by the U.S. Army Corps of Engineers and standardized by the American Society for Testing and Materials. The city is currently (2013) developing a new street condition measurement system that will more accurately identify street pavement condition. This will better identify street maintenance techniques that can maximize the return-on-maintenance dollars spent to extend the life cycle of existing city streets. Due to variations in usage, weather, construction techniques, and drainage characteristics, timely and appropriate maintenance has a significant impact on the useful life of pavement.
- Based upon national pavement condition index standards, additional Wichita street maintenance funding needs are currently estimated at \$12 million annually. These estimates will be adjusted once the city finalizes a new street condition measurement system.
- It is estimated that between 23% and 46% of Wichita streets have a sidewalk.
- Sedgwick County utilizes a five-year road maintenance schedule that has yielded good overall road conditions for county-maintained roads.
- Approximately 29% of Wichita's bridges and 6% of Sedgwick County's bridges are functionally obsolete and/or structurally deficient based on national assessment standards (these bridges are not hazardous or dangerous). The city has over \$69 million in needed bridge projects for which no funding has been identified.
- Road system congestion: There is less traffic congestion in the Wichita area now than five years ago. According to the 2012 Wichita Urban Mobility Report prepared by the Texas Transportation Institute, traffic congestion in the Wichita metro area expressed as a percentage of peak vehicle miles traveled decreased between 2006 and 2011 (8% in



2006; 5% in 2011). Wichita metro area traffic system congestion as a percentage of total lane-miles also decreased during this same time period (16% in 2006; 9% in 2011).

- Road system safety: Between 2005 and 2009, the number of crashes in the Wichita metro region remained steady near 10,500 per year while the overall crash rate (number of traffic crashes per one million vehicle miles traveled) declined slightly from 2.48 crashes to 2.31 crashes (WAMPO Safety Plan 2010). While the overall crash rate declined, the total number of crashes involving vulnerable road users (motorcyclists, pedestrians, and cyclists) increased from 254 crashes per year to 314 crashes per year.
- The capacity of Wichita Mid-Continent Airport is currently being enlarged with a terminal upgrade and parking improvements at a cost of \$200 million.
- Wichita Transit: An additional investment of \$20.5 million (mostly federal funds) is required for the phased replacement of Transit's aging bus fleet (48 buses) over the next few years. Utilizing compressed natural gas (CNG) as a cheaper fuel source for buses would require the city to make a capital investment of approximately \$3 million (using mostly federal funds) to install a CNG facility. Roughly 3% of the city's population currently uses public transit (12,000 individual riders annually). Recent plans to improve transit service have recommended system improvements (more routes, increased frequencies and hours of bus service) for which no funding has been identified. Future funding sources to maintain Wichita Transit operations and transit services remain uncertain after 2013.

Currently Planned (2012) Capital Expenditures:

City of Wichita Capital Improvement Program (2011-2020) -

- Following the slow-down in new home construction after 2008, the city has placed more emphasis on street projects within established areas of Wichita. The city has recently determined that it may get the best return on its limited road maintenance dollars by extending the life of streets that are currently in better condition rather than those streets that are in the worst condition.
- The three state-funded T-WORKS transportation projects (with local city and county matching funds) committed in the Wichita metro area through 2020 are: Kellogg/I-235 interchange improvements (\$116 million); Kellogg Freeway eastward extension from Cypress to 127th Street (\$162 million); and, improvements to K-96/I-235/I-135 interchanges (design only, no construction funds available).
- Wichita's major planned transportation improvement expenditure categories through 2020 are: *Arterial Streets* (\$584 million - \$206 million in city funds); *Freeways* (\$247 million - \$94 million in city funds); *Bridges* (\$80 million - \$73.8 million in city funds); *Transit* (\$28 million - \$4.6 million in city funds); *Airport* (\$305 million - \$194 million in city funds).



Sedgwick County Capital Improvement Program (2013-2018) -

- For future County road and bridge projects planned through 2018, system maintenance (600 miles of road; 600 bridge structures) is the first priority. Roughly 50% of County CIP funds are expended for system maintenance. System reconstruction is the second priority and new improvements (routes and bridges) are third priority.
- Sedgwick County's major planned transportation improvement expenditure categories through 2018 are: *Roads* (\$78 million - \$70 million in county funds); *Freeways* (\$83 million - \$4 million in county funds); *Bridges* (\$16 million - \$12 million in county funds).

2. Health & Environment Infrastructure (\$2.1 billion) -

(Water, sanitary sewer, storm sewer/stormwater management, solid waste management, public health)

Summary of Major Assets:

- Wichita and Sedgwick County combined health and environment assets account for roughly 30% of all city and county infrastructure (39% of total city assets and 1% of total county assets). Wichita has 2,016 miles of sanitary and storm sewer lines, and 2,367 miles of water lines.
- Wichita operates a cell for construction and demolition waste at the former Brooks Landfill facility.
- In 2006, Wichita completed Phase I of the multi-phase Equus Beds Aquifer Storage and Recovery Project (ASR) to supplement the Cheney Reservoir and local city well fields as the long-term water supply sources for the city. To date, Wichita has spent \$254 million dollars on Phases I and II of the ASR Project.
- Wichita maintains and operates three sewer treatment facilities - Plant #2, Plant #3 and the 4-Mile Creek Plant.
- Wichita and Sedgwick County jointly own and operate the Wichita/Valley Center Floodway Control Project. Completed in 1959, this project currently consists of 108.8 miles of levees and 40.9 miles of channels that transect Valley Center, Park City, Wichita, Haysville and unincorporated Sedgwick County.
- Sedgwick County Public Health Department clinic and office facilities are currently leased or rented. Under agreement with the City of Wichita, the Health Department will eventually take title (in eight years) to the current city-owned facility at 1900 E. 9th St. North.



Condition and Capacity:

- Annual straight-line depreciation of city and county assets in this category is estimated at \$57 million and \$0.8 million respectively.
- Wichita's water supply: Wichita's long-term water supply needs and costs are currently under evaluation. The City is reviewing the impact and effect of long-term drought on Lake Cheney and the ASR Project, as well as the impacts of agriculture irrigation and chloride-contaminated groundwater movement. Most of the city's long-term water supply costs will be paid by Wichita Water Utility consumers (requiring a possible increase in utility rates), supplemented with possible additional funding from other partners including the state and federal governments. The potential costs are currently unknown. Long-term options include a mix of:
 - ❖ Additional water conservation practices;
 - ❖ Re-using treated sewer plant water for irrigation or manufacturing;
 - ❖ Tapping into the El Dorado reservoir;
 - ❖ Water desalination or reverse osmosis facilities.

- Wichita sewer treatment facilities current average daily demand and capacity:

- ❖ Plant #2 (54 mg/day capacity - averaging 30 mg/day);
- ❖ Plant #3 (3.5 mg/day capacity - averaging 0.5 mg/day);
- ❖ 4-Mile Creek Plant (2.5 mg/day capacity - currently at design capacity)

By 2020, Plant #2 will need to be upgraded (estimated cost range of \$95 million to \$146 million) to meet federal EPA mandates for biological nutrient removal standards in wastewater discharged into lakes or rivers (requiring a possible increase in utility rates).

- Wichita's water and sewer pipe system: The age, size of pipe and material composition of the city's water lines, water valves, and sewer lines vary throughout the city, and reflect in large part the decade of building construction. Approximately 25% of the city's water lines are over 50 years old - some lines in downtown Wichita are over 100 years old. Roughly 33% of the city's sewer lines are over 50 years old. The condition of these system assets represents significant maintenance and replacement liabilities on the part of the city over the next 20 years. In 2012, funding for the city's annual water line repair/replacement budget increased from \$2.5 million to \$5.4 million. Funding for the city's annual sewer repair/replacement budget increased from \$1.5 million to \$5.4 million. Unfunded water and sewer maintenance projects totaling \$42 million have been identified by Public Works and Utilities Department.
- Substantial improvements to Wichita's current sewer collection system may also be required over the next decade to limit sewer back-up incidents, if so mandated by the EPA. Depending upon the level of mandate, this could potentially cost the City over \$100 million per year for multiple years (requiring a possible increase in utility rates).



- The overall age, condition and capacity of Wichita's water and sewer pipe system is such that the current system is not capable of providing new or enhanced services in certain older established neighborhoods and newer suburban areas without significant reinvestment on the part of either the city or private developers.
- Wichita/Valley Center Floodway Control Project: The annual operation and maintenance budget is \$2 million. An additional \$1.6 million is needed annually to maintain the project to FEMA and U.S. Corps of Engineers certification and accreditation standards. Needed and desired future improvements and expansions to the project over the next 10-15 years would cost an estimated \$60 million.
- Wichita and Sedgwick County stormwater management: The Sedgwick County Stormwater Management Advisory Board has identified more than \$200 million in future stormwater infrastructure projects county-wide and across multiple jurisdictions necessary to solve historic and chronic stormwater/flooding problems. Wichita's current \$2.0 per month ERU (equivalent residential unit) stormwater fee generates \$8.5 million annually and is insufficient to raise the additional \$76 million needed by the city to fund required city projects through 2020.
- Brooks Landfill construction and demolition cell: The current estimated life expectancy of the remaining cell is 2018. The city is proposing a new cell that would create 36 years of construction and demolition waste capacity. Design and permitting approvals should be completed by 2015.

Currently Planned (2012) Capital Expenditures:

City of Wichita Capital Improvement Program (2011-2020) -

- Wichita's priority for planned water and sewer investments is the rehabilitation and replacement of system integrity and capacity rather than system expansion. Major planned health and environment capital improvement expenditure categories through 2020 are: *Water Supply* (\$345 million); *Water Distribution* (\$236 million); *Sewer Distribution* (\$114 million); *Sewer Treatment & Facilities* (\$177 million); *Stormwater* (\$32 million - \$15.5 million in city funds).

Sedgwick County Capital Improvement Program (2013-2018) -

- Major planned health and environment capital improvement expenditure categories through 2018 are: *Stormwater* (\$5 million).



3. Culture, Recreation & Parks Infrastructure (\$0.5 billion) -

(Libraries, arts/education facilities, parks, recreation facilities)

Summary of Major Assets:

- Wichita and Sedgwick County combined culture, recreation and parks infrastructure assets account for roughly 7% of all city and county infrastructure (6% of total city assets and 14% of total county assets).
- Wichita recreation assets include 124 parks, 11 pools, 8 recreation centers and 5 golf courses. Special recreational use facilities include Lawrence Dumont Stadium, Ralph Wulz Riverside Tennis Center and the Wichita Ice Center.
- Wichita education and cultural assets include 10 public libraries, Botanica, the Great Plains Nature Center, Century II Convention Center, CityArts, Exploration Place (joint city/county), Mid-America All Indian Center, Old Cowtown Museum, Wichita Art Museum and the Wichita-Sedgwick County Historical Museum.
- Sedgwick County recreation, education and cultural assets include Lake Afton Park and Observatory, Intrust Bank Arena, National Center for Aviation Training, Sedgwick County Extension Center, Sedgwick County Park and the Sedgwick County Zoo.

Condition and Capacity:

- Annual straight-line depreciation of city and county assets in this category is estimated at \$20 million and \$5 million respectively.
- Wichita recreation assets: Based on extensive public input and asset inventory work undertaken in 2008, the Wichita Park and Open Space Plan (PROS) recommends \$8 million annually for the replacement and/or renovation of the city's existing park and recreation assets. The city's annual spending on replacement and/or maintenance has averaged around \$2.3 million. The PROS plan recommends \$19 million be spent annually to implement recommended expansions to the city's park and recreation system. Unfunded park projects totaling \$44 million have been identified by the Park and Recreation Department.
- Wichita education and cultural assets: Asset renovation cost estimates include \$12 million for Century II, \$5 million for Kennedy Plaza, \$30 million for a new downtown library and \$0.5 million for Westlink Library improvements. No funds have been identified for the proposed Northwest Regional Library (\$9.7 million), the proposed Southeast Wichita Community Resource Center (\$8.3 million), the recommended \$50 million retrofit of Lawrence Dumont Stadium, or the recommended \$173 million expansion to the Convention Center.
- Sedgwick County recreation, education and cultural assets: The Intrust Bank Arena has a dedicated operations and maintenance reserve fund of \$8.7 million.

Currently Planned (2012) Capital Expenditures:

City of Wichita Capital Improvement Program (2011-2020) -

- Major planned cultural, recreation and parks capital improvement expenditure categories through 2020 are: *Parks* (\$26.5 million - \$24 million in city funds); *Libraries* (\$33.5 million); *Culture/Arts* (\$18.4 million).

Sedgwick County Capital Improvement Program (2013-2018) -

- Major planned cultural, recreation and parks capital improvement expenditure categories through 2018 are: *Parks* (\$1 million); *Education* (\$1 million).

4. Public Safety Infrastructure (\$0.2 billion) -

(Fire facilities, police facilities, EMS facilities, corrections facilities, court facilities)

Summary of Major Assets:

- Wichita and Sedgwick County combined public safety infrastructure assets account for roughly 6% of all city and county infrastructure (1% of total city assets and 20% of total county assets).
- Wichita's fire facilities include 22 fire stations and a regional fire training center.
- Wichita's police facilities include 4 police substations, the City Hall Police Center and a bomb disposal range.
- Sedgwick County's public safety facilities include 15 EMS posts, 9 fire stations (Sedgwick County Fire District #1), County Sheriff's Office, Sedgwick County Jail, joint City/County Law Enforcement Training Center, Public Safety Center, juvenile and adult correction/detention facilities and work release centers.
- Wichita and Sedgwick County are providing matching funds for the construction of the new Heartland Preparedness Center, a joint law enforcement training center and Kansas National Guard facility.
- Significant portions of total public safety service expenditures for both the city and county are the staffing costs associated with the delivery of public safety services.

Condition and Capacity:

- Annual straight-line depreciation of city and county assets in this category is estimated at \$1.9 million and \$10.5 million respectively.
- In Wichita, the total violent crime rate per 1,000 population has increased slightly since 2010 (5.39 in 2010; 5.59 in 2012) while the property crime rate per 1,000 population has increased notably (49.77 in 2010 to 57.38 in 2012). Nationally, property crimes rates have risen while rates for violent crimes have declined.



- Wichita residential structure fires have trended downward over the last four years (542 in 2009; 364 in 2012) as has the rate of residential structure fires per 1,000 structures (4.4 in 2009; 2.9 in 2012). Basic life support (BLS) responses for the Wichita Fire Department have trended upward since 2010 (30,633 in 2010; 33,938 in 2012) as has the rate of BLS per 1,000 population (80.1 in 200; 88.3 in 2012).
- Wichita police public safety assets: Existing Patrol East and Patrol West Substations have operational and capacity issues and are not strategically located for optimal service delivery based upon the city's current urban growth limits. The City has committed \$5 million to fund the relocation of these substations. No funds have been identified for a new Police helicopter (\$2.5 million) or for remodeling projects at the City Hall Police Center (\$3 million) and the Patrol North and South Substations (\$2.7 million).
- Wichita fire public safety assets: Due to expanded city growth, the Fire Department has recommended the construction of two additional fire stations to ensure targeted response time coverage. No funds have been identified to construct these stations (\$5.6 million total cost) or the recommended fleet center improvements to the Fire Regional Training Center (\$5.6 million).
- Sedgwick County public safety service assets: The County has initiated design work (\$2.1 million) to improve the aging Law Enforcement Training Center. Funding commitments have been made for a new County Administration Building (\$32 million cost estimate) due to the State Supreme Court directive to accommodate up to eight new judges in the 18th Judicial District at the Main Courthouse. The County has identified a need to replace EMS Post 1 and construct a new northeast EMS post. No funds have been identified for these facilities (\$2.2 million total).

Currently Planned (2012) Capital Expenditures:

City of Wichita Capital Improvement Program (2011-2020) -

- Major planned public safety capital improvement expenditure categories through 2020 are: *Fire Facilities* (\$2.8 million); *Fire Apparatus* (\$31 million); *Police Facilities* (\$5 million); *Police Equipment* (\$4 million); *Heartland Preparedness Center* (\$90 million - \$19.2 million in city funds).

Sedgwick County Capital Improvement Program (2013-2018) -

- Major planned public safety capital improvement expenditure categories through 2018 are: *Public Safety & Court Facilities* (\$1 million); *Heartland Preparedness Center* (\$30 million).